THE

JOURNAL OF GAS LIGHTING.

PUBLISHED QUARTERLY,

WITH AN INTERMEDIATE SUPPLEMENT ON THE 10TH OF EACH INTERVENING MONTH.

No. 16.] LONDON, MAY 10, 1850. [SUPPLEMENT { Price 4d. Stamped. „ 3d. Unstamped.

SHEARS and SONS' Patent Dry Gas METER.—Shears and Sons beg to call the attention of Gas Companies, Gas Fitters, and the Public to their Patent Dry Gas Meters, which possess the advantages of perfect registration under all pressures of gas, of great steadiness in the lights, of simplicity in construction, and of great durability; besides others, not the least of which are the form and arrangement of the valves, by which the objection to sliding valves is avoided.

After thoroughly examining and practically testing these Meters for a considerable time, the leading Metropolitan Gas Companies, to whom they have been submitted, have approved of them, and are now using them; and it is the opinion of a large number of the most experienced and competent gas authorities that these Meters only require to be more known to be generally adopted by gas consumers who desire to have the best Meter with the least trouble and inconvenience.

S. and S. also manufacture Wet Gas Meters, to which they apply their patent index.

BANKSIDE, London.

TO Ironfounders, Gasholder Makers, &c.—The Directors of the Alliance and Dublin Consumers' Gas Company hereby give notice, that they are ready to receive PROPOSALS for the ERECTION of a CAST-IRON GAS TANK, 103 feet diameter, 22 feet deep, with double or telescopic gasholders to work therein, with columns, bridges, guides, pulleys, &c., and the whole to be put up and completed at the Company's works, Sir John Rogerson's-quay, Dublin.

Plans and specifications to be seen at the office, 50, Dame-street; or on application to George Low, Esq., C.E., 39, Finsbury-circus, London.

Sealed tenders to be addressed to the Directors, 50, Dame-street, on or before the 18th of May next, endorsed "Tender for Tank," or "Gasholder," as the case may be. The Directors do not bind themselves to accept the lowest tender. By order,

Dublin, April 25, 1850. JOHN STEVENSON, Sec.

HARPERS and MOORE, of the Delph Fire-brick and Clay Works, Stourbridge, invite the attention of Gas Companies, Engineers, Oven Builders, and all consumers, to their Stock of FIRE-BRICKS, LUMPS, or BURRS, QUARRIES, CLAY, and other Goods, a large assortment of which is always kept at their London Depôt, No. 7, Wenlock-road, City-road; also Melting-pots for Brassfounders and Metal Refiners. These articles are made in a very superior manner from clay of the very best quality, and have been proved by metal-melters (who can be referred to) to have withstood the most severe tests, and for very long periods.

Shipping orders supplied, and every description of Fire-clay Goods made to pattern or drawings on the shortest notice.

H. and M. particularly invite the attention of Gas Companies to a trial of their Fire-clay Retorts, which they are now making in a very superior manner, and of a quality which, on trial, will be found to surpass anything of the kind hitherto produced. The superior quality and peculiar admixture of their clays enable them to manufacture an article which fully admits of the necessary expansion and contraction, to allow of their being let down at the end of a season, when the usual supply of gas is not required, and again put to work for successive seasons without fear of cracking or leakage from any other cause.

H. and M. further beg to direct attention to the evidence of Mr. Croll, given before a Committee of the House of Commons, relative to the use of Clay Retorts (see "Gas-lighting Journal" of April 10, 1849, pages 43 and 44). The Clay Retorts there referred to by Mr. Croll were made at, and supplied from, the works of Harpers and Moore, as above; they were put to work in August, 1846, and are now in full and constant operation.

Testimonials can be seen, and further information obtained, on application (if by letter, prepaid), addressed as above.

PATENT GAS METER MANUFACTORY,
No. 66, Snow-hill, London.

WILLIAM SMITH, by the improvements he has made in the Wet Meter, and which he has secured by her Majesty's Royal Letters Patent, the accuracy of their registry is rendered certain by the introduction of the adjusting slide and hydraulic, whereby a Perfect Water Level is readily obtained, and the Hydraulic precludes the possibility of abstracting water from the meter by increased pressure or otherwise, thus surmounting the great desideratum of the Wet Meter. In his Patent Equitable Gas Meter neatness and strength are combined, the backs and fronts of the case being stamped by powerful machinery out of thick plate iron (tinned or galvanized); and the internal construction is of the best metal, which will resist the action of any impurity in the gas.

Old Meters may readily have the adjusting slide and hydraulic applied, thereby having accurate measurement assured.

Station Meters, Governors, &c., made on the shortest notice.

W. BENNETT,
MANUFACTURER OF GAS-COOKING RANGES,
ST. THOMAS'S BUILDINGS,
LIVERPOOL.

CHARLES WALKER and SONS, Little Sutton-street, Goswell-street, London, respectfully solicit the attention of the Directors of Gas Companies and Engineers to their Registered Improved Gas Valve, for stations and street mains, which possesses the following advantages:—

1st. The valve will work as free in liquids, where others will stick, such as in tar, lime, &c., as in pure gas.

2nd. The working parts can always be supplied with oil, and when the valve is raised the gland slides off any incrustation on the spindle, which then receives a supply of oil from the box.

3rd. No risk of the valve falling down, and the most careless cannot damage the working parts.

4th. The valve need never work on its edge, as is the case with all rack valves.

5th. It has a legible index of the height of valve.

6th. They will last longer, and are cheaper than ordinary valves.

All the joints are truly planed; they can, therefore, be taken to pieces and put together with very little trouble, and they have had the experience of nine months' working in crude gas.

CHARLES WALKER and SONS take this opportunity of stating that they manufacture all Machinery and Smiths' Work for gas companies, and will be happy to furnish estimates.

PRICES:

10 in. to 14 in. diameter	...	13s. per in.	With Index for showing the opening of valve.
4 „ 9 „	...	14s. „	
2 „ 3 „	...	15s. „	

C. RICKETS,
MANUFACTURER of APPARATUS for advantageously applying GAS HEATS to CHEMICAL, CULINARY, MANUFACTURING, and various DOMESTIC PURPOSES, No. 5, AGAR-STREET, STRAND (opposite Charing-cross Hospital), London.

PATENT FIRE-CLAY RETORTS.

ORLANDO BROTHERS and RAILTON, Manufacturers of O. Brothers's Patent, beg to state that these RETORTS being made in ONE ENTIRE OPERATION, and in ONE PIECE of any required shape, length, breadth, and height, are not liable to Cracks and Fissures, of which there is a just and general complaint; and they are consequently superior to and cheaper than any hitherto manufactured.

Prices per foot in length:—

	At Blackburn.	In London.
12 in. by 12	7s. 0d.	8s. 3d.
14 in. by 12	8s. 0d.	9s. 6d.
16 in. by 12	8s. 6d.	10s. 3d.
18 in. by 15	9s. 6d.	11s. 6d.
19 in. by 13	9s. 6d.	11s. 6d.
24 in. by 15	11s. 6d.	13s. 9d.

exclusive of the angle-iron flanges.

References and further particulars may be obtained on application to the Patentee, Gas Works, Blackburn; or to Messrs. George Barlow and Son, 9, Charterhouse-square, London.

TO Gas Engineers.—The Advertiser, having considerable experience in carrying out the plans and details of Gas Work Erections, is desirous of Employment as FOREMAN in such capacity.

Letters addressed A. B., care of Mr. Alexander Wright, Gas Engineer, 55, Millbank-street, will be promptly attended to.

London, May 6, 1850.

WEST BROTHERS and CO.,
LATE
THOMAS WEST,
GAS METER MANUFACTURERS, BRASS FOUNDERS, &c., UNION-STREET, OLDHAM.

Station and Experimental Meters, Gas Pressure Registers, Gauges, Experimental Gas Holders, Governors, Slide Valves, &c. &c.

IMPORTANT to Gas Works.— JAMES PHILLIPS and CO., 116, Bishopsgate-street Without, London, have made arrangements to supply Gas Companies and Contractors for Lamps with GLASS, at the following low net cash prices, cut to sizes and shapes, and delivered in any part of England or Scotland where there is railway communication:—

Crown glass,	12 oz. to the foot, at 2½d. per foot super.			
do.	18 oz. „ „	4d.	„	„
Sheet glass,	13 oz. „ „	2½d.	„	„
do.	16 oz. „ „	3d.	„	„
do.	21 oz. „ „	4d.	„	„

All orders addressed as above will receive prompt attention.

CLEGG'S New Patent Gas Meter.— LONDON—24, REGENT-SQUARE.

In these Meters the varying height of the water makes no difference in the measure.

PRICE OF STATION METERS.

To measure	60,000 cubic feet per 24 hours	£50
„	120,000 „ „	75
„	240,000 „ „	100
„	500,000 „ „	150
„	1,000,000 „ „	250
„	2,000,000 „ „	400

A. WRIGHT, Gas Engineer and Meter Manufacturer, 55, Millbank-street, near the Houses of Parliament, Westminster, respectfully calls the attention of Gas Companies and Engineers who are not yet provided with Station Meters to the fact that he has erected two of the largest machines of this kind in existence, the one for the Chartered Gas Company, London, the other for the Hibernia Gas Company, Dublin, for both of which he has obtained the highest testimonials.

To this branch of business A. W. devotes much attention, as well as to the Manufacture of all kinds of Experimental Machinery for Gas purposes.

Consumers' Meters of all sizes at the usual prices, with a liberal discount to wholesale purchasers.

RAMSAY'S Garesfield Colliery, NEWCASTLE-UPON-TYNE.

COKING COAL and COKE of the best quality; superior CANNEL COAL, and FIRE GOODS of all descriptions.

Analysis of Garesfield Coke, by Dr. Richardson, of Newcastle:—

Carbon	97·60.
Ashes	1·55.
Sulphur	0·85.

Products of Ramsay's NEWCASTLE CANNEL COAL, as ascertained by Drs. Leeson and Miller, and G. H. Palmer, Esq.:—

Gas per Ton of Coal, cubic feet ..	9·667.
Specific Gravity	0·731.
Illuminating Power	1·85 to 2·03.
ordinary Newcastle Coal Gas being	1.
Coke per Ton of Coal	13½ cwt.

Broad Chare, Newcastle-upon-Tyne.

GAS LIGHTS.

J. GUISE, Gas Burner Manufacturer (late of No. 75, Margaret-street, Wilmington-square, but now at) 45, CLERKENWELL-GREEN, LONDON, avails himself of this opportunity of returning his sincere thanks to the Gas-fitters, and the Trade in general, for the liberal support he has received from them; and begs to inform them that he has removed his Gas Burner Manufactory to No. 45, Clerkenwell-green, for the better accommodation of business, and he hopes, by unremitting attention, to merit a continuance of their favours.

His Shadowless Burners and Catopric Reflectors are warranted to be superior for light and economy to any thing of the kind ever yet invented; but, as various persons are now selling Burners purporting to be Guise's, which, in reality, are not, J. G., therefore, begs to announce that none are Guise's unless marked "GUISE, REGISTERED," or "GUISE, PATENT."

WILLIAM SUGG, Gas Engineer and Manufacturer of Patent Wet and Dry Gas Meters, combining all the latest acknowledged improvements; Brass Founder, Gas Fitter, and Lamp Contractor; Manufacturer of all kinds of Plain and Ornamental Gas Apparatus, and Contractor for the Erection of Gas Works. Designs and Estimates submitted; Station Meters and Governors of any size.

Gas Meter and Apparatus Works, 19 and 20, Marsham-street, Westminster.

WM. PARKINSON
(*Successor to the late Samuel Crosley*),
COTTAGE-LANE, CITY-ROAD, LONDON,

Begs most respectfully to announce that he has, in addition to the continued manufacture of GAS METERS, commenced (under Patent) the manufacture of Meters for measuring Water, Spirits, &c.

N.B. These Meters are as simple and durable as the Gas Meter, and as correct as that instrument under the most careful manipulation.

ESTABLISHED 1827.

JOHN BEVERLEY and SON, Manufacturers of the Improved METALLIC GAS METERS, 68, BRIGGATE, LEEDS,

In returning thanks to Gas Companies, and those who have been pleased to patronize the use of their Gas Meters, take leave to observe that they still continue to make the outer cases of Cast Iron, which are carefully fitted and put together with screws, and the interior wheel or drum of a composition that has stood the test of years.

Dealers in all kinds of Gas Fittings, Tubing, &c. &c.

BRYAN DONKIN and CO.'S Improved GAS VALVES (Registered). Messrs. Bryan Donkin and Co. solicit the attention of Directors and other Gentlemen connected with Gas Companies, to their improved GAS VALVES, which have been adopted and approved of by the principal Companies and Gas Engineers of London and elsewhere, on account of the advantages and greater security attained, and the more perfect adaptation to the purposes required.

As the Inventors consider the superiority of these Valves now fully proved, it remains simply to quote the prices:—

	Per in. diam.	Separate Spigot and Faucett Fittings. Per in. extra.
From 14 in. to 10 in., inclusive,	13s.	3s. 6d.
„ 9 in. to 4 in., „	11s.	2s. 6d.
„ 3 in. to 2 in., „	15s.	1s. 6d.

The above prices include an Indicator, for showing the extent to which the Valve is open.

Bryan Donkin and Co. also solicit the attention of the public to their newly-invented Registered SAFETY GAS VALVE, or SLIDE-COCK, for service mains. It is constructed with plane surfaces, presenting a straight and full-sized bore for the flow of gas, avoiding the cone and being as durable as the best slide-valves.

Engineers' Works, Grange-road, Bermondsey.

GEORGE and SAMUEL CUTLER, GASHOLDER AND BOILER MAKERS, No. 21, WHARF-ROAD, CITY-ROAD, LONDON.

Contracts for Tanks, Gasholders, Roofs, Purifiers, and all descriptions of Gas Apparatus executed on the most reasonable terms. Slide Valves, Steam and Range Boilers, and Smiths' Work, of the best materials and workmanship.

M. SHEEN, Gas and Railway Lantern Maker, 90½, Holborn-hill, begs to inform Managers of Gas Works, &c., that she continues to contract and supply Lanterns on reasonable terms, and keep them in repair by the year.

THE New Patent GAS LIGHT MONITOR, adapted to every description of Burner, and supplied at a cost placing it within the reach of every consumer of Gas, regulates the flame to any required height, economizing the consumption, and preventing the danger and inconvenience arising from the flaring and smoking of lights. It may be seen in daily use at the office of the Patentees, 20, King William-street, Charing-cross.

IRISH MANUFACTURE.

JAMES GRAY and CO. continue to make every description of FIRE-BRICKS, TILES, and BLOCKS used in setting Retorts, all of the very best fire clay.

Irish Gas Companies can be supplied with as cheap and good an article, manufactured in their own country, as any they can import.

Fire-clay and Brick Works, Coal Island, near Dungannon, county of Tyrone, May 28, 1849.

N.B. Flooring, Ridge, and Oven Tiles, Water Pipes, Flue Linings, &c. &c.

TO GAS COMPANIES.

JOHN EUNSON, Gas Engineer and Contractor for the Erection of Gas Works, continues to manufacture CLAY RETORTS upon the most approved principle, and of the best material.

Wolverhampton, May 5, 1849.

CARTER'S Patent Safety Gas Valve or Main Cock.—Experience has demonstrated the superiority of this Invention as a substitute for the common Main Cock, which is so soon out of order, either becoming fixed or leaky, neither of which is likely to occur with these Valves. They have been several years in use in many of our largest establishments: in the Bank upwards of one thousand are fixed, where, as elsewhere, they are highly approved.

Many of the Gas Companies have adopted them for their Street Lamp Cocks, and thereby prevent the possibility of waste.

They are manufactured of all sizes, from 2-8 to 12 inches bore, and are cheaper than any other description of Cock now in use.

THOMAS LAMBERT and SON,

Patentees, corner of Short-street, New-cut, Lambeth; Manufacturers of Block Tin Tube, and every description of Gas, Steam, and Hydraulic Apparatus.

PATENT FLEXIBLE GAS TUBING.

JAMES LYNE HANCOCK'S Vulcanized Indiarubber Hose Pipes and Tubing. Manufactory (and Warehouse), Goswell-mews, Goswell-road, London.

Gas Companies, Engineers, Gas Fitters, and the Trade generally, are respectfully informed this Tubing is now manufactured to any size, from ¼ inch bore and upwards, in 100-feet lengths, and perfectly cylindrical, either with or without a spiral wire inside.

VULCANIZED GLAZED FLEXIBLE TUBING, from ¼ inch up to 1 inch diameter, made in 24-feet lengths; or, covered with silk or worsted, up to 100 feet.

VULCANIZED HOSE, for FIRE ENGINES, BREWERS' USE, and for standing great pressures (Rubber and Cloth combined), made to any length or size to fit the necessary screws, &c.

VULCANIZED INDIARUBBER AIR-TIGHT BAGS, made any size, for Gas Mains, with flexible tubes attached, and fitted with stopcocks complete.

TO Gas Companies.—An experienced Person desires a Situation as FOREMAN or SUPERINTENDENT of a Gas Work. He is well acquainted with all branches of the trade, and can be strongly recommended.

Address to A. B., 88, Cheapside, London.

ESTABLISHED IN 1834.

S. KING, Gas Meter Manufacturer, 21, Cock-lane, West Smithfield, London.

Meters made of the best materials and workmanship, with all the recent improvements, and warranted correct in registration.

CAST Iron Retorts, Socket Pipes, and Connections of every size suitable for Gas and Water Works, Lamp Columns, Wrought Iron Tubing, Hot Water Pipes, Rain Water Pipes, and Eaves Gutters, in stock, and sold on the lowest terms, at LYNCH WHITE'S Iron Wharf, 66, Bankside, London.

M. KELLY, Cast Iron Wharf, 31, Bankside, London.—Retorts of superior quality, Socket and Flange Pipes, Bends, Branches, Syphons, and every description of Castings for Gas and Water Works, Gasometers, Tanks, Purifiers, Condensers, &c., erected complete, or the materials supplied.

Gas Valves and Sluice Cocks on an improved principle. Patent Gas Tubing and Connections.

A stock of the above articles kept.

The Pipes and Retorts supplied by M. K. are cast vertically, which ensures soundness and equality of thickness throughout.

CLARK'S Gas Burners. — Gas Fittings.—The Star, the Glass, and the Reflecting Gas burners are the best in existence.—Every Burner bears a label, "CLARK'S PATENT."—The price is from 3s. 6d. complete.—A most brilliant Light. They are shadowless, and all smoke is consumed. They effect a great saving in Gas. Every one should use these Burners. The Gas Fittings are cheap and well made. The Gas Chandeliers are magnificent in design and very low in price, beginning at 42s. No one should buy without first calling to see the immense Stock of Gas Fittings constantly on show. The Metropolitan Light Company also Contract and Fix Gas Work.—RICHARD CLARK, Resident Manager, 447, West Strand.—Please write down the address.

BRETTELL and WHITEHOUSE, late Brettell and Rufford, beg to inform Gas Companies and others requiring best STOURBRIDGE BRICKS and CLAY that they continue making all kinds of BRICKS, and warrant all their goods fully equal to any house in the trade.

Fire Brick Works, Stourbridge.

H. JONES, Gas Meter Manufacturer, No. 44, OLD-STREET, St. Luke's, London, begs respectfully to call the attention of Gas Companies to his latest improvements in the WET METER, by means of which water cannot be abstracted, neither can Gas by any possibility pass through the Meter without registering.

METER INDICES.

J. CLUER, Gas Meter, Index Maker, and Model Machinist, No. 1, Bowling-green-lane, Clerkenwell, London.

INDICES and all other Apparatus for Gas Meters of every size and kind, made on the shortest notice, of the best metal, and of superior workmanship.

JOSEPH BOULTON, Gas Meter Manufacturer, No. 1, COPPICE-ROW, CLERKENWELL, LONDON, begs to call the attention of Gas Companies and the public in general to his improved GAS METER, containing all the latest improvements.

J. B. warrants all Meters to be manufactured of the best materials and workmanship, the wheels, &c., being of metal. Old Meters repaired on the lowest terms.

TO GAS ENGINEERS, GASOMETER MAKERS, AND OTHERS.

THE Directors of the Woolwich Consumers' Protective Gas Company are about to ERECT a TELESCOPE to their Gasholder, No. 2, situate at their works in the Glass-yard, Woolwich. Persons desirous of TENDERING for the same may see the plans and specifications at the Office at the Works. All tenders must be sent to the Secretary on or before the 15th May inst., but the Directors do not pledge themselves to accept the lowest tender.

By order of the Board,

Powis-street, Woolwich. J. BLACK, Sec.

F. & C. OSLER,

44, OXFORD-STREET, LONDON;

MANUFACTORY—BROAD-STREET, BIRMINGHAM,

Manufacturers of Glass Chandeliers, Glass Lustres, Table Glass, &c. &c.

ELEGANT CRYSTAL GLASS CHANDELIERS, FOR GAS

(Made from "REGISTERED" DESIGNS), with GLASS BRANCHES, &c.; suitable for DRAWING-ROOMS and BALL-ROOMS. From £4. 15s., upwards. The more extensive use of GAS in private dwellings has induced Messrs. OSLER to direct their particular attention to the manufacture of this class of articles—which, with a view to their general adoption, are offered at very moderate prices. Purchasers can select from a great variety of patterns, to which additions are being constantly made.

THEATRES, CONCERT, ASSEMBLY, AND BALL ROOMS LIGHTED BY ESTIMATE, ON THE LOWEST TERMS.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

CROLL and GLOVER, Patent Dry Gas Meter Manufacturers, Suffolk-street, CLERKENWELL-GREEN, LONDON, beg respectfully to call attention to the following extracts from testimonials in favour of their Meters. The respectability of the parties will be esteemed by all acquainted with gas matters as affording the most indubitable evidence of the superiority of their Patent Dry Gas Meters, proving that gas companies and gas consumers may rely on them for a just and unvarying registration, durability, and the absence of all trouble arising from condensation of water in the fittings, and the impossibility of their being stopped by freezing in the coldest climates.

CROLL and GLOVER take this opportunity of remarking to Gas Companies that the apprehension so generally entertained by them, viz., that if Dry Meters were introduced into their districts their Stock of Water Meters would be thrown on their hands, while this has not happened even with those Gas Companies who have for years back purchased none but Dry Meters; this apprehension ought to lead Gas Companies to a speedy investigation into the merits of Dry Meters, so that they may not, year after year, be increasing their stock of Water Meters, which they themselves apprehend must one day be thrown out of use.

CROLL and GLOVER humbly think that the following extracts prove that the merits of their Meter are entitled to prompt attention of Gas Companies.

Almost all the testimonials bear the date of November, 1848.

EXTRACTS.

"The Chartered Gas Company have purchased and fixed up above 2,000."—GEORGE LOWE, *Civil Engineer, F.R.S., &c., Consulting Engineer to the Chartered Gas Light and Coke Company, London.*

"We have in this district from seven to eight hundred, and are daily fixing more."—F. I. EVANS, *Superintendent at Chartered Gas Light and Coke Company's Station, Brick-lane.*

"I invariably found the flames perfectly steady, and the gas accurately measured."—A. H. STILL, *Superintendent at Chartered Gas Light and Coke Company's Station, St. Luke's.*

"I beg to state that out of 800 Meters of the square form, and anti-corrosive metal, I find only twenty have been entered in our return-book, chiefly for broken index-glasses. The company are continuing to purchase and fix up your Meters in considerable quantities."—WILLIAM MONRO, *General Superintendent and Engineer of the Phœnix Gas Light and Coke Company, London.*

"I have much pleasure in stating that the Meters we have received with your last improvements have given great satisfaction."—JOHN AIRD, *Superintendent of the Phœnix Gas Light and Coke Company's Station, Greenwich.*

"I have had some of them in use for nearly four years. In certain situations exposed to the influence of the climate I have found them to be the only description fit for use, as well as in confined and overheated situations, where the water in the Water Meters is acted upon by evaporation."—ROBERT LAING, *Secretary and Superintendent of the Independent Gas Light and Coke Company, London.*

"Having had, in all, up to the present time under my inspection 609 Meters of your manufacture, a very good opportunity has thus been afforded me of judging of their merits. The result of my observation in respect of registration and steadiness of light is, that the Meters have given perfect satisfaction."—D. METHVEN, *Engineer and Superintendent to the Commercial Gas Light and Coke Company, London.*

"The advantages which I have found attending the use of your Dry Gas Meters, in preference to the Wet Meters, are so important, that nothing would induce me to return to the use of the latter. As Station Meters yours have the additional advantage, that there is no water-line to attend to, or to be subject to neglect."—CHARLES DIXON, *Engineer of the Chichester Gas Light and Coke Company.*

"I have also had sufficient opportunity of knowing that they are not affected by the most severe frost, nor where one of them was fixed did I ever know of condensation taking place in the inside gas fittings of any premises."—SAMUEL PONTIFEX, *Manager, Winchester Gas Light and Coke Company.*

"We are now using your Meters solely."—CHARLES PURVES, *Manager, Gas Works, Gosport.*

"It is now nearly 2 years since we commenced using upwards of 100 of your Dry Meters, and during the whole of that time have not taken one of them down, for any cause whatever. This is an unvarnished, practical fact, and unprecedented, as far as my experience goes; therefore I have no hesitation in stating that I prefer them to every other Meter with which I am acquainted."—J. THOMAS, *Manager, Consumers' Protective Gas Light Company, Woolwich.* April 19, 1849.

"Previous to using them I held theoretical objections, which I can now say have been removed, and their superiority as an instrument of unvarying measuring capacity has been fully established."—EDWARD H. THORMAN, *Superintendent of the West Ham Gas Company.*

"I have delayed giving my opinion of your Meters until I had had another winter's experience; and, notwithstanding some of them were placed in the open air, not one became fixed. We have had a short winter, but the frost is very severe."—P. T. W. de TIMMERMAN, *Director of the City of Leyden Gas Works.* Jan. 26, 1849.

Station Meters, Station Governors, Pressure Registers, Experimental Meters, and Specific Gravity Apparatus.

CONTENTS.

	PAGE
Circular to Gas Companies	207
Communicated Articles :—	
On the Purification of Coal Gas	207
Correspondence :—	
Clay and Iron Retorts	208
On the Purification of Coal Gas	209
Remarks by Mr. Clegg on "The History of the Gas Meter"	209
Parliamentary Intelligence	210
Great Central Gas Consumers' Company :—	
Laying of the Foundation Stone	210
General Meeting of Shareholders	210
Register of New Patents :—	
A. V. Newton, for Improvements in the manufacture of Pipes or Tubes	211
H. Watson, for Improvements in Valves and Cocks	212
D. Hulett and J. B. Paddon, for Improvements in Gas Meters and Gas Regulators	212
Miscellaneous :—	
Board of Trade	212
Gas Lighting in Australia	212
The Chartered Gas Company	212
Public Works Gas Company	212
Fatal Accident from Gas	212

TO CORRESPONDENTS.

W. B.—*Naphtha is manufactured in considerable quantities in Lancashire, in Scotland, and in other localities, principally where cannel coal is used for manufacturing gas. There are some large establishments of this nature at Liverpool, Manchester, and Dundee.*

The letter of a "Brother Shareholder" *in the Great Central Gas Company arrived too late for insertion.*

NOTICES.

Parties who receive the JOURNAL OF GAS LIGHTING *through Booksellers are requested to take notice that the Office for its publication is removed from* 21, *Paternoster-row, to* 88, *Cheapside.*

All communications and orders for Advertisements to be addressed to the Editor, 32, Bucklersbury, London.

The Terms of Subscription are :—

Six Shillings per Annum for the Quarterly Journal and Monthly Supplement, payable in advance.

Subscribers are reminded that the Subscriptions for the current year are now due, and they are requested to remit the same, by Post-office order, to the Proprietor. Those who desire that their remittances be acknowledged will please to enclose a postage stamp.

All back numbers exceeding three months' date will in future be charged double price, unless six or more consecutive numbers are taken at the same time. Nos. 6, 12, and 13 are nearly out of print, and can in future only be obtained with complete sets of the Journal.

The Editor will be particularly obliged by his friends forwarding to him Notices of all Meetings, Trials, or Appeals which it may be interesting to the Gas World to have reported.

Circular to Gas Companies.

THE promoters of the Great Central Gas Consumers' Company have, since our last, ventured upon the hazardous experiment of commencing operations with a subscribed capital of £91,640, upon only £58,000 of which have the calls been responded to by the shareholders; and this, with £30,000 more, which it is now stated the present contractors have agreed to accept in part payment of their contract, constitutes the effective capital of the company for meeting its engagements. Of the £58,000, about £45,000 is subscribed by the directors, engineer, and other parties not locally interested in the question as consumers of gas within the city of London; so that £13,000 represent the interest of the *bond fide* gas City consumers willing to continue the present agitation. The whole question is, however, now under the investigation of an able and competent tribunal, whic hwill judge dispassionately between the parties, according to the evidence brought before them; and, as no new features have transpired respecting it since our last, beyond those above stated, we, for the present, refrain from any further observations upon it.

In reference to an advertisement which appears in our present number, announcing a reduction in the price of gas by the West Ham Gas Company from 6s. to 5s. per 1000 feet, it should be stated that this company has no public lights—its whole revenue being derived from private lights supplied by measure. This reduction is a consequence of the metropolitan agitation, and will probably be followed by a diminished dividend upon the last rate of 6 per cent.

The rumour had reached us in an indefinite form, that the Imperial Gas Company had contracted for the supply of a considerable quantity of cannel coal, when we alluded last month to the introduction of this material into London. We are now enabled to state that this rumour is correct, and reiterate the opinion that, if anything can maintain the present rate of 6s. charged by that company, it is the use of a portion of cannel in the manufacture of their gas. The directors have well judged of the necessities of their position and interests, and have confirmed the generally received opinion of their ability to meet the existing crisis in the affairs of the of the metropolitan gas companies, and their anxiety to do justice to the public.

Communicated Articles.

ON THE PURIFICATION OF COAL GAS.

BY MR. RICHARD LAMING.

The time is rapidly passing away when the great producers of the necessaries of life and civilization can venture to stand still and be safe without improvement; already the onward course of competition is constraining manufacturers in every department of trade to assist their "art and mystery" by all the appliances of science; and even the agriculturist, the engineer, and the chemist, are beginning to acknowledge their dependence on one another. Had the tide of necessity set in thus irresistibly half a century ago, would the distillation of coal, by which a heterogeneous mixture of materials is brought into existence, have continued to the present moment to be treated as a mechanical art, without deriving from chemistry one single improvement worthy of universal adoption, unless it be the purification of the gaseous products by means of lime, without which small amount of improvement they would have been from the first rejected by the community at large as a barbarous and intolerable innovation? Had chemists entered into the manufacture of coal gas, in conjunction with mechanical engineers, would lime have been continued fifty years in commission for arresting both sulphuretted hydrogen and carbonic acid, when the latter, which is the more abundant of the two, and comparatively innocuous, has the power of dismissing the sulphuretted hydrogen from its combination with the lime; and, especially, when aided in doing this by the affinity of the sulphuretted hydrogen for ammonia, which is always present, and which increases its volatility, and at the same time gives pungency to its abominable odour? Would chemists have compounded with the evil, and satisfied themselves by first removing the ammonia by means of water, or acids, or less pernicious, but at the same time less efficacious, reagents; and then by leaving the possession of the lime to be disputed as usual between the other two impurities of the coal gas? Would chemists have continued to use lime at all when they knew that the atmosphere always contains enough carbonic acid to make the presence of the spent lime a perpetual nuisance, by liberating from it in a gaseous state an abundance of foul and poisonous sulphuretted hydrogen? No; manufacturers may have perpetrated such things for the sake of their commercial advantages, and engineers may have tolerated them because their profession cannot teach them a remedy; but chemists could and would have rejected these barbarisms, and, by using the means which nature has placed at their disposal, have both made the gas what it ought to be, and given to the uninitiated another demonstration of the importance of their favourite science.

What chemists have to aim at in purifying coal gas is to dispossess it of its sulphur, its carbonic acid, and its ammonia; to effect this purification without cost for material or labour, and to cause the impurities spontaneously to change into innocuous articles of value. These, I say, are the desiderata; and, if chemists cannot attain to them, it can at all events approach very much nearer than it has ever yet done.

We have a proper model to study from in the purification of the human body by the agency of the blood. By circulating in every direction that fluid absorbs and carries to the various excretory organs certain superfluous quantities of organic matter which are required to be thrown out of the system. For example, the blood delivers over to the kidneys the elements of ammonia and various acids; and it conveys to the lungs a quantity of carbon, which is destined to be there combined with atmospheric oxygen, and expired in the form of carbonic acid gas. Thus revivified, the fluid is again propelled to the remotest parts of the body, and in its course becomes again charged with impurities, to be in their turn thrown out by the excretory organs; by alternately absorbing and discharging impurities, or, in physiological language, by alternately changing from venous to arterial blood, it maintains the animal composition in its normal condition.

Have we any materials which are competent to act on coal gas in a manner analagous to that in which the blood acts on the human body; and which after being made like it impure by performing such an office, are susceptible also like it of recovering their energy under the influence of atmospheric oxygen? It may be shown that we have such materials placed at our disposal.

The first materials of the sort which it will be useful to notice, are a mixture of sulphate of lead and oxide of lead. Such a mixture when exposed to impure coal gas, becomes partly changed into sulphate of ammonia and sulphuret of lead; and the former of these being removed by water, the sulphuret may be changed by exposure to oxygen at a red heat into sulphate of

lead and oxide of lead as before, after which they may again be used for purifying. This imitation of the respiratory process of animal life is, however, very imperfect; and in practice it is attended by two grave disadvantages,—for, not only does the oxidation of sulphur refuse to go on except at temperatures artificially raised to a very high degree, but also the weight of material to be revivified is out of all proportion to the work which it accomplishes, it being no less than $\frac{1}{15}$th part of the weight of the coal which supplies the gas to be purified. Notwithstanding the enormous amount of labour and the expense consequent on furnacing so great a quantity of material, the process is actually in operation at Versailles, and at certain other small gas establishments in France.

The materials which experience has led me to prefer are infinitely better than the preceding, and consist of the two oxides of iron and calcium mixed together and diffused through sawdust or breeze. A small quantity of such a mixture purifies the gas made from a very considerable quantity of coal; and the used materials need no assistance from art to cause them to carry on to perfection the revivifying process of respiration. The affinities called into exercise in the use of these materials are simple and interesting; while the oxide of calcium absorbs the carbonic acid of the gas, the oxide of iron combines with it sulphuretted hydrogen, and the results are carbonic of lime and sulphuret of iron. When these substances inspire atmospheric air, its oxygen unites with both elements of the sulphuret of iron, and converts them into sulphate of the protoxide of iron. Then, under the continued influence of the atmospheric oxygen, the salt of iron, and the carbonate of lime with which it is in contact next resolve themselves into sulphate of lime and carbonate of iron; and as this latter is not persistent in the air it eventually becomes peroxide of iron; thus we have again the two oxides of iron and calcium with which we began the purifying process, with an addition to the latter of a quantity of sulphuric acid, one element of which has been obtained from the gas, and its other element from the atmosphere. Our materials having now become oxide of iron and sulphate of lime may be reapplied to carry on the work of purification, with the additional advantage of absorbing the ammonia as well as carbonic acid and sulphur. Instead of waiting for the spontaneous formation of sulphuric acid, it may advantageously be added at the beginning of the operation, or its place may be temporarily occupied by any other acid which is susceptible of combining with lime, and of being separated from it at ordinary temperatures by carbonate of ammonia. When muriate of lime or sulphate of lime can be had in the vicinity of the works, it may be mixed with oxide of iron; or the mixture may be made in an economical manner by acting on gas liquor by muriate or sulphate of iron, and then mixing the precipitated sulphuret and carbonate of iron with lime; during which operation the exposure of the mass to the air changes it into peroxide of iron and sulphate of lime. Whatever be the mode adopted for obtaining the purifying materials, they should always contain the two oxides of iron and calcium in a state of intimate mixture; when this is the case it is a matter of inferior moment what acid be originally used, as in all cases the resulting ammoniacal salt will eventually be the sulphate. In practice I allow the salt of ammonia to accumulate in the mass of used materials until its presence becomes inconvenient, when it may be removed by solution.

From the preceding exposition of my process it will be seen to be based upon a certain set of known affinities, by the influence of which the greatest impurity of the gas, namely, its sulphur, is converted into sulphuric acid, and then combined with the next greatest impurity, namely, the ammonia; while the carbonic acid, which is inodorous, is made to escape into the atmosphere, and to be thus got rid of without expence.

As the human blood circulates through the excretory organs an indefinite number of times, so my mixture of oxide of iron and oxide of calcium make their appearance repeatedly in the purifying vessels; the purifying agent in both cases really being the oxygen of the atmosphere. I therefore claim to have approached in my purification of coal gas very nearly to the minimum of expenditure for materials; I claim to have succeeded in causing two of its impurities to become spontaneously converted into a marketable product of considerable value; and also to have attained these desiderata with the least possible cost for labour, as nothing is requisite for revivifying my materials than to raise the cover of the vessel which contains them, whereupon the air penetrates to the bottom of their mass, and does all that is necessary. To these advantages must be added the perfect purification of the gas from cyanogen and sulphuret of carbon, and an increase in its illuminating power, which I ascribe to the suppression of the lime, and consequently of its alkaline reaction on the hydrocarbons. In conclusion, I may remark that the sulphuret of carbon now removed for the first time, is the impurity that gives to coal gas that particular pungency while burning, which has hitherto prevented its general admission into private dwellings, even when the best purified.

Correspondence.

CLAY AND IRON RETORTS.

Sir,—In the last number of your journal I gave the comparative working of the iron and clay retorts under my charge during four years, and from those data it is evident that, so far as the management of clay and iron retorts at these gas works is concerned, the former do not require more fuel per 1000 cubic feet of gas produced than the latter.

In discussing the subject of fuel, I am aware that I am departing from the usual mode of computation, as I take the cost per 1000 cubic feet of gas produced, instead of the quantity or weight of coke used for the carbonization of a certain quantity or weight of coals; but as the real question at issue is, what is the cost price on a large scale, of each 1000 cubic feet of gas produced, I consider myself justified in carrying out this principle in the item of fuel.

Your readers will perceive from my last communication that the average quantity of gas produced from a ton of coals with iron retorts, during two years, was to that produced from the same quantity of coal with clay retorts, during the same period of time, as 9·440 is to 11·268. It is, therefore, evident that, if clay retorts require no more fuel for each ton of coals carbonized than do iron retorts, the cost of fuel per 1000 cubic feet of gas made must be less with clay retorts than with iron. I do not, however, contend, that taking the weight of fuel or coke used for the carbonization of a ton of coals with clay, as compared with iron retorts, that such is really the case; but I confidently contend that, taking into consideration the weight of fuel consumed, and the quantity of gas produced from clay retorts, as compared with fuel consumed, and the gas produced from iron ones, that the cost of fuel per 1000 cubic feet of gas produced is less with clay than with iron retorts.

The money received for coke per 1000 cubic feet of gas made during the years 1846 and 1847, as compared with the years 1848 and 1849, prove this beyond dispute, so far as these works are concerned, particularly as the coke has been sold, week by week, as it has been produced. Notwithstanding, therefore, the generally received opinion, as maintained by Aluminium Ferrum, that clay retorts require more fuel than iron ones, that opinion, in reality, is not correct, when the quantity of gas produced is taken into consideration. I have dwelt more fully upon this subject, than may be deemed necessary, but, as the opponents to clay retorts have always mixed up fuel with their arguments when they compare clay retorts with iron ones, they cannot complain when the advocates for clay retorts meet them upon their own grounds; indeed, as Aluminium Ferrum himself appears fully aware that if clay retorts do not require more fuel per 1000 cubic feet of gas made than iron retorts, one of the most powerful arguments against the economical use of clay retorts is completely overturned. How far I have succeeded in proving that the latter are as economical as iron ones, as regards the item of fuel, I will leave to the impartiality of your readers, again referring them to the data given in my last communication upon this subject.

Great stress has also been laid upon the well-known fact that iron is by far a better conductor of heat than fire-clay, so much so that a counter fact has been overlooked, that in general practice the iron retort is protected from the undue effects of the heat of the furnace by fire tiles of at least 1½ inch thick, and in some instances equally as thick as the clay retorts themselves; in such cases the furnace must impart no inconsiderable portion of its caloric to such protecting tiles, and the iron retort must in its turn obtain no little part of its caloric from the same bad conductor of heat as the material of the clay retort. I advance no arguments upon these observations, nor am I unacquainted with the fact that the gas engineers in London, in the setting up of iron retorts, studiously avoid the employment of all extraneous fire-clay materials, for I am quite content with the practical data I have obtained upon this subject.

Before I quit the subject of "fuel" in the heating of either iron or clay retorts, I cannot help remarking upon the conflicting statements made by gas engineers, even in their reports of the working of iron retorts, as to that mysterious and ever-fluctuating quantity of coke that will carbonize a certain quantity of coals. A great deal of this mystery, so far as many provincial towns are concerned, may arise from the different qualities of coke produced from the different descriptions of coals. The quantity of cannel coke required to carbonize a ton of coals would surprise the London gas engineers as much as the small quantity of Newcastle coke (of greatly superior quality) that is required under equal circumstances would surprise gas engineers accustomed only to use cannel coke. Yet even where Newcastle coal and coke are used, there are conflicting statements as to the quantity of coke requisite to carbonize a ton of coals perfectly irreconcilable with each other.

I will now notice some of the other reasons advanced by Aluminium Ferrum against the economical use of clay retorts when used for the carbonization of coal in the production of coal gas. They are as under:—

1st. That it requires six months to render clay retorts sound.

2nd. That clay retorts are very porous.

3rd. That clay retorts produce less gas per ton of coals than iron retorts.

I admit that I was surprised at these plain statements when I read them in your Journals of Gas Lighting for May, June, and July of last year; more particularly as I had not noticed these bad qualities of clay retorts, though I had worked with them some time, and my carbonizing book was regularly made up every twelve

hours. However, as I had just completed setting up some new ones in lieu of some that had satisfactorily done their duty, I made up my mind to test Aluminium Ferrum's statements, by actual experiment upon new clay retorts, and I now submit a copy of the same.

——	Quantity of Gas produced during the Week.	Number of Clay Retorts in Action.	Quantity of Cannel Carbonized. Tons. Cwt. Qrs.	Average Quantity of Gas per Ton of Cannel produced during the Week.	Volumes of Oxygen Gas required to consume 100 Volumes of the Coal Gas.
Week commencing July 9, 1849, and ending July 15, 1849, both days inclusive.	244,600 C. F.	10 retorts till Wednesday, and 15 up to Sunday.	25 8 0	9,629 C. F.	155·0
2nd Week. From July 16 to July 22, both days inclusive.	257,100 C. F.	15 retorts up to Tuesday morning, and 10 up to Sunday night.	23 7 2	10,990 C. F.	154·5
3rd Week. From July 23 to July 29, both days inclusive.	271,200 C. F.	10 retorts.	24 10 0	11,069 C. F.	154·0
4th Week. From July 30 to Aug. 5, both days inclusive.	281,800 C. F.	10 retorts.	24 10 0	11,502 C. F.	153·3
5th Week. From Aug. 6 to Aug. 12, both days inclusive.	291,600 C. F.	10 retorts.	24 10 0	11,908 C. F.	152·3
6th Week. From Aug. 13 to Aug. 19, both days inclusive.	292,200 C. F.	10 retorts.	24 10 0	11,295 C. F.	155·0
7th Week. From Aug. 20 to Aug. 26, both days inclusive.	389,100 C. F.	The 5 retorts let down July 17 again charged. 15 retorts.	35 12 0	10,928 C. F.	154·0
8th Week. From Aug. 27 to Sept. 2, both days inclusive.	425,800 C. F.	15 retorts.	36 15 0	11,586 C. F.	153·3

The average of the eight weeks' working will stand thus :—

Quantity of Gas produced during the Eight Weeks.	Number of Retorts in Action.	Quantity of Cannel Carbonized during the Eight Weeks. Tons. Cwt. Qrs.	Average Quantity of Gas produced per Ton of Cannel during the Eight Weeks.	Average Volumes of Oxygen Gas required to consume 100 Volumes of the Coal Gas produced.
2,453,400 C. F.	Partly 10 and 15 clay retorts.	219 2 2	11,196 C. F.	153·92

The above workings extend over a space of eight weeks only, and not six months; and as the results of each week are given separately, and five of the retorts had been let down and were again put into action, I leave your readers to decide how far Aluminium Ferrum's opinions are correct.

In conclusion I may remark that the clay retorts used at these works could not have possessed the character ascribed to them by that writer; or the evidence given at Liverpool, in 1847, before C. E. Ellison and George Lowe, Esqrs., to the effect that the average production per ton of Wigan cannel, with iron retorts, was 9600 cubic feet, must have been incorrect.

Aluminium Ferrum's conclusions, as to the comparative quality of clay and iron retorts, were arrived at from experiments made by him upon 15 cwt. of caking coal; the data I have submitted to your readers include experiments made upon 219 tons of cannel, and, with your permission, I will make them the subject of another communication at a future time.*

——, *Lancashire, April* 22. EXPERIMENTUM CRUCIS.

† SIR,—Observing a remark in the article on "Clay Retorts" in the JOURNAL OF GAS LIGHTING for March 11, stating that all the tar was used for fuel, I take the liberty of inquiring in what manner it is consumed. I have made two or three attempts, but cannot use it to my satisfaction; and if you will so far favour me with a little information in this matter you will greatly oblige; also the weight of cannel carbonized per twenty-four hours per retort to make the volume of gas stated.

Is it advantageous to have an arch over the fire (as shown in sketch), and not the retort exposed?

——, *April* 29. W. E.

[Our esteemed correspondent "D." has been obliging enough to reply to the above in the following terms, and we beg publicly to tender him our thanks for his interesting communications, and his readiness to reply to any inquiries connected with them.]

SIR,—In reply to the letter of "W. E.," now before me, I may state that the mode generally adopted by Scotch gas engineers for consuming tar as fuel is, first (when used alone without coal):—The ordinary furnace-door is removed and the opening extended forwards some ten or twelve inches, and closely built all round, enclosing a space of about one foot cube, opening into the furnace mouth. This small chamber is usually covered in the bottom with waste lime from the purifiers, to prevent incrustation within; and the top is formed by a stout iron plate, easily removed to allow the cleaning out of the space within. The centre of the plate has a small round hole in the middle, through which a small stream of tar constantly runs. Secondly (when used in combination with coal as fuel), the furnace is of the usual construction, and a small opening is made through the front wall, one inch and a half wide by one inch deep. Near the point marked *k* in fig. 1, page 180, a spout is inserted in the said opening; the tar falls on the outer end of it, and is conducted some four or five inches beyond the inside of the wall, and the stream falls on the top of the fuel on the furnace bars.

The stream of tar is liable to be irregular when passing through the stop-cock, which has an opening of one-eighth of an inch diameter, but this is got over by feeding from a cast-iron cistern, placed over the bench, kept constantly full; and from the temperature being pretty equal and high its fluidity is much increased.

Each retort described in my letter is charged with nearly two cwt. of coal, yielding from 9000 to 10,000 feet per ton, charged six times in twenty-four hours; and, when not contracted inside by carbonaceous matter, the average yield of three retorts, in good order, is 16,000 feet. This is the result arising from a mixture of three varieties of cannel coal which yield, on an average, 9400 feet of gas per ton. Perhaps your correspondent may be aware that the coke from parrot or cannel coal does not expand like Newcastle coal, hence the heavy charge put in.

The arch over the furnace bars, shown in my sketch, has been found to save the front ends of the retorts from intense heat, while it causes a more regular distribution of heat within the oven.

——, *Scotland, May* 2, 1850. D.

ON THE PURIFICATION OF COAL GAS.

SIR,—I have just observed a communication, in your Journal of the 10th inst., for a plan of purifying gas by means of precipitates, or hydrated peroxide of iron, made by decomposing sulphate of iron with lime. I beg to say I have a patent for this and other methods of purifying gas, and shall be much obliged by your inserting this letter in your Journal, to prevent my patent being unintentionally infringed.

Deptford Chemical Works, April 20. F. C. HILLS.

[The following letter on this subject, has been addressed to the editor of the *Mining Journal*, from which the notice in our last was extracted.]

SIR,—I observe a short letter in your valuable Journal of the 27th of April, from Mr. F. C. Hills, in which that gentleman, referring to a mode of purifying coal-gas used at Rugby by a Mr. Phillips, and published in the *Mining Journal* a short time since, lays claim to that process, and threatens the public generally with the infliction of law proceedings in the event of their employing such process. I have to remark merely upon this, that the process which Mr. Hills claims, and for which he pretends to have a patent, was really patented by me more than two years ago; and I shall certainly proceed by law against either Mr. Hills or any other person infringing the same. As a proof of which, I beg to refer you to my solicitor (Charles Holt, Esq., 14, Guildford-street), who is now engaged in an action with Mr. Phillips for the very infringement before referred to, and which I would have noticed in a manner similar to Mr. Hills, had my claim been of a similarly doubtful character to his. As it is, I appeal to the judicature of my country. RICHARD LAMING.

Isle of Dogs, Poplar, May 2.

REMARKS BY MR. CLEGG ON "THE HISTORY OF THE GAS METER."

SIR,—In the continuation of "The History of the Gas Meter" inserted in the last number of your Journal, the dividing of the gas into two portions, and measuring only one, is attributed to Mr. Edge; and it is stated that I have applied that principle to my last regulating gas meter. My patent for measuring only part of the gas which passes a meter is four years prior to Mr. Edge's patent, as will be proved by the following extract from the specification of a patent granted to me in 1838 for a dry gas meter.

"I also lay claim to my method of capacitating the instrument to measure any increase of quantity, by opening from the same source

* An accidental error crept into the calculations of the produce of coke sold in the year 1849, which at page 191 was stated to have been 2·917d. per 1000 feet of gas made. It should have been 2·644d.

as supplies the vessel containing the balance a free passage for the gas, through an aperture or apertures, bearing an ascertained ratio to an outlet aperture in the said vessel, and registering both currents at the same time." S. CLEGG.

London, May 1.

Parliamentary Intelligence.

GREAT CENTRAL GAS CONSUMERS' COMPANY.

The select committee appointed to investigate the merits of this scheme commenced their labours on the 7th inst. Present—Mr. CARDWELL (Liverpool), in the chair, Mr. MARSHALL (Leeds), Mr. G. EARLE WELBY (Grantham), Mr. PILKINGTON (Blackburn), Mr. M. PORTAL (Hants).

The following local members were associated with the committee:—Sir JAMES DUKE (London), Lord DUDLEY STUART (Marylebone), Mr. THOMPSON (Tower Hamlets).

Sergeant WRANGHAM, Mr. HILL, Q.C., Mr. JAMES WILDE, and Mr. TAYLOR appeared as counsel for the promoters.

Mr. TALBOT, Q.C.; Mr. HOPE, Q.C.; Mr. BURKE, Mr. CORRIE, and Mr. WARREN were the counsel for the parties opposing the bill.

Mr. C. Pearson, M.P., was examined in support of the bill, and on the following day Mr. Deputy Harrison and Mr. Fickling, when the further proceedings were adjourned till the 10th inst.

We shall not be able to publish a detailed report of the proceedings till our July number; but such of our subscribers as are interested in the matter, and are desirous of being supplied with daily reports, may obtain them on the following day by application to the editor.

GREAT CENTRAL GAS CONSUMERS' COMPANY.

LAYING OF THE FOUNDATION STONE.

The first stone of these works was laid at Bow Common on the 23rd ult., by Mr. Dakin, the chairman of the company in the presence of the directors and a few shareholders who assembled to witness the ceremony. The absence of all the civic notables and the metropolitan members was much regretted, nor did the subsequent festival at the London Tavern prove more attractive, except to a few provincial members, to whom the delicacies of that renowned establishment were more seductive than the beauties of Bow Common. It is understood that the Lord Mayor declined the honour of thus rendering his mayoralty memorable, nor could the Baron Rothschild, Sir James Duke, or any of the more respectable parties who have from time to time been announced as its patrons, be induced to grace the ceremony with their presence. In the evening the shareholders and friends of the company dined at the London Tavern, Mr. Dakin presiding, when, after the usual loyal and patriotic toasts had been drunk, Mr. Pearson, M.P., proposed "Prosperity to the Great Central Gas Consumers' Company," and pointed out in forcible language that the company had already saved £50,000 to the public by the reductions effected in the price of gas. The chairman returned thanks, and presented to Mr. Pearson an elegant silver claret jug, as a present from the directors, bearing the following inscription:—"Presented to Charles Pearson, Esq., M.P., late chairman of the Great Central Gas Consumers' Company, by his late colleagues, in testimony of their great estimation of his able services in assisting to form the company, thus destroying the gas monopoly that had existed in the city for thirty years, and, by reducing the price, effecting a saving to the city of nearly £50,000 annually. The directors have great pleasure in recording their sense of the encouragement which they received from their late chairman whilst joined with them in the administration of their arduous duties, by which their labour was lightened, amidst opposition and difficulties of no ordinary kind; and they desire to express their fervent wishes for his health, prosperity, and long continuance in his course of public usefulness." Mr. Pearson acknowledged in suitable terms the receipt of the testimonial.

The CHAIRMAN proposed the health of Mr. Croll, and dwelt at some length on the great services rendered to the company by that gentleman.

Mr. CROLL returned thanks and said, "I will not affect to conceal the pride and satisfaction with which I regard the expression of the sentiments in which this toast has been proposed, or the manner in which you have been pleased to receive it. It is the well-merited character of the genius of this country that it felicitously combines the most profound attainments in abstract science with the most useful, profitable, and practical application of those physical laws which rule the material elements with which Providence has surrounded us. We are met this day to celebrate the progress of scientific discovery applied to the convenient purposes of civilized life—of those mechanical and chemical combinations which add lustre to the halls of kings and embellish with economical cheerfulness and frugal light the workroom of the artisan and the cottage of the peasant. I do not pretend to be above that infirmity of our common nature which guides us by fixed motives. I do not think, indeed, that even our selfishness was given to us either to serve ourselves alone, or to exclude advantage to society. The prospect of the fair material rewards of industry and genius stimulates each of us to toil for the whole. The desire to earn the good opinion of mankind stimulates us often to postpone the mere sordidness of avarice to the interest and happiness of the community. It is the unmixed advantage of an undertaking such as that of which we are assembled to celebrate the establishment, that it combines the excellences of a substantial, certain, and profitable commercial undertaking with the promotion of the domestic comfort and the elevation of the social habits of the people—that it consults at once the material interests of the producer and the saving of the consumer—that like mercy, but in a more directly mercantile and tangible shape, 'it blesses him that gives and him that takes.' My part and lot in this matter is known to most of you. I am a practical man. I do not pretend to the mere vision of the transcendental philanthropist. I am not led away by the dreams of the mere inventor. My calculations have been previously tested by extensive practical experience—they are corroborated by the virtual testimony to their accuracy, to be derived from the contracts on which my estimates are founded, being all taken by eminent experienced and purely practical contractors. I believe, I am confident that I am serving the public. I am sure I am securing safe profits to the shareholders. I do not pretend to deny I am certain that I am serving myself. If I am mistaken, I shall be the chief sufferer; for I have not hesitated to peril the gains of an active and successful life upon the result. But I have previously tested by ample practical results the safety of the experiment; and I can but say this, that you have only to be true to each other and the pledges you have given to your fellow-citizens, in order to realise every promise you made to yourselves, and every prospect you held out to the community. In this as in every effort to benefit the public by new inventions and fresh discoveries, we have brought down upon ourselves the vengeance of vested interests and the fury of vast capitalists. We are resolved to meet their unmeasured opprobrium with perfect good temper and equanimity, and their heavy attempts at levity with the old proverb, 'let them laugh that win.' I again thank you gratefully for your kindness in this notice of my name, and can only say that it will be to me a fresh stimulus to deserve it."

Some other toasts were proposed, and the company separated at a late hour.

GENERAL MEETING OF SHAREHOLDERS.

The first half-yearly meeting of this company was held at the London Tavern on Tuesday, the 30th ult., for the purpose of presenting to the shareholders for their adoption the reports of the directors, and surveyor and engineer, and a statement of the accounts, and also to elect three directors (in the room of three who had retired), and one auditor.

Mr. DAKIN, chairman of the board of directors, presided.

The advertisement convening the meeting, and a circular stating the business to be transacted, having been read,

The CHAIRMAN congratulated the company on the largeness of the attendance. It was gratifying to know that there were twenty-five shareholders who held 2500 shares among them. It was also gratifying to see so many shareholders present to receive the reports, and the directors would be happy to give any explanations of those documents which the shareholders might require.

The Secretary then read the report of the directors, which gave a short history of the company from its commencement, and informed the meeting that this company bound themselves on their formation to manufacture gas at 1s. 4½d. per 1000 cubic feet, and to lay down the whole plant to supply 368,000,000 cubic feet of gas for £164,808. 2s. 2d. The maximum cost of the gas works was now estimated at £136,303. 15s. The first estimates contemplated for contingent expenses an outlay of £41,000, but up to the drawing up of the report the outlay under that head had been only £8000, leaving an ample margin for future expenses, without in any degree disturbing the precision of the original estimates. The estimates were secured by contract. Taking into account the wear and tear of pipes and other contingencies, it was calculated that there would be a dividend of 10 per cent. This was not only clearly demonstrable, but also that there would be a surplus of several thousand pounds, which would afford a margin for the reduction of prices, or to meet any future competition to which the company might be exposed. If the City Gas Companies, who had bound themselves to sell at 4s. per 1000, could, after expending £800,000, make a profit, how was it possible that a company with a capital of £136,000 could fail to make profits with their present ample security? After detailing matters which have already been before the public, the report stated that the directors had entered into contracts to supply the inhabitants along the line from Bow-common to the City with gas as soon as the mains were laid down; and they had also agreed to supply the inhabitants of Mile-end Old-town, and other places near it, within twelve months after they had commenced supplying the city of London; and the directors wished that the third call, due April 16th, should be paid up, as they were anxious to have the amount of £75,000 at command before commencing laying down their pipes. The report concluded by saying that the directors thought it imprudent to go to the expense or trouble to answer all the objections made against the company by the supporters of monopoly.

The abstract of accounts was then partly read, but, in compliance with the request of a shareholder, the remaining items were omitted. It was announced that the total receipts on calls and deposits up to the 19th of March, 1850, amounted to £19,254. 16s. 3d.; and the sums since received to £12,844. 16s. 5d.; making a total of £32,099. 12s. 8d. The available assets, consisting of land, a balance at the bankers, furniture, &c., were valued at £13,153. 7s. 11d.; and £6060. 16s. 8d. had been paid on account of Parliamentary expences, and to engineers and surveyors, in salaries, and in carrying out the undertaking. The liabilities were stated to be £1707. The whole number of shares to be issued was 15,000, including 3000 taken by the contractors. This constituted the capital of the company. Mr. Croll held 1250 shares, and had paid up £3812. 10s., and would shortly pay the balance of the third call. He also assured the directors that he would pay the fourth call before the time for payment arrived. It was stated that 1s. per share deposit had produced £512. 10s.

The Surveyor's report was then read. The works at Bow-common were proceeding rapidly, and the wharf at Limehouse had been completed. The retort-house and station meter-house were rapidly progressing, and the excavations for the purifying-house and for the tanks for the two large gasometers were finished and ready for the brickwork. In the event of the trustees of the Essex roads continuing to refuse the company permission to lay down their mains, the cost of diverging from them would not exceed £500, a cost which it might be judged better to incur than the delay until the passing of the bill. The cost of the mains to Mile-end Old-town and Whitechapel would not exceed £15,000, as no great lengths of pipe were required.

The Secretary having read a portion of the engineer's report, in which the cost of coals, at 16s. per ton, for the production of 320,000,000 feet of gas, was stated to be £27,826; labour, £4666; retorts, £2666; and wear and tear, £2666; the meeting became impatient, and

Mr. CROLL volunteered to give a summary of the report. He said he had contracted to manufacture the gas at 1s. 4½d. per 1000 cubic feet. The cost of distribution would amount to £8865, making the entire cost of production and distribution £31,135. Putting down preliminary expenses, contingencies, and floating capital, the whole capital required would amount to £130,333; £10 per cent. on which would be £13,033. 15s., leaving a surplus, after paying all expenses, of £8624, or, in other words, the company could afford to sell gas at 3s. 6d. per 1000 feet, and have a surplus profit of £1900.

The CHAIRMAN said the reports they had just heard read had gone so fully into the nature and arrangements and present position of the company that it was unnecessary for him to say much in moving their adoption. He would, however, take the opportunity of making a few remarks, glancing rapidly over the transactions of the history of the company. The directors of the company had put themselves at its head, believing that they had been supported by the citizens of London, a belief in which they were not disappointed. The commencement of the movement might be dated from Thursday evening, Dec. 6, when one of the largest meetings that had ever assembled in the city of London met to discuss this question. At that time the old company agreed to come down to 4s. a thousand as the proper price of gas after having refused this measure of justice as long as it was in their power. When they saw that monopoly was about to be wrested from their hands they went to the commissioners of sewers and said, "We will now supply you at 4s." On that occasion the directors of the Great Central Gas Company thought proper to appeal to the citizens of London whether that tardy admission of the true principle of the manufacture and sale of gas would satisfy them. The advertisement calling that meeting was to consider the promise of the City Gas Company to reduce their price, and the original proposal of the Great Central Gas Consumers' Company to supply gas of a purer kind and a higher illuminating power at 3s. 6d., and ultimately at 3s., as soon as the means would enable them to do so. Two resolutions were then moved and carried in favour of the Central Gas Company. That was the answer which the citizens of London gave to the proposal of the old gas company. The directors of the new company then applied to the gas consumers for their support, and said, "Gentlemen, unless you give us better evidence of your desire to support us than the applause of a popular meeting we will not proceed. We want the practical evidence of your wish that we should go forward by your becoming shareholders." This evidence the company had obtained by a large member of the gas consumers of the metropolis becoming shareholders. The citizens, however, had at first been deterred from coming forward in consequence of the powerful opposition and the unscrupulous statements of the new company. The old companies had in this respect been guilty of indiscreet, unfair, and unhandsome conduct. This was the reason why the share list, the most important part of the constitution of the new company, had not been filled up with that promptitude and anxiety which the directors had a right to expect. However, with all those drawbacks, the company could now present a share list of 13,060 subscribed shares. The company had 9160 shares signed for, 3000 taken by the contractors, and nearly 1000 taken originally by gentlemen who signed the parliamentary deed, but who had not signed the contract, waiting for the act of Parliament. These latter parties were equally liable to the company, but the directors were not willing to press them if they wished to withdraw. The contracts entered into for the execution of the works had a direct reference to the certainty of those shares being subscribed for. When Peto and Betts contracted to erect the works they agreed also to take 5000 shares in part payment. It was unfortunate, however, in the progress of the business, that the respectable solicitor of the other gas companies, and also solicitor to the commissioners of sewers, and, to the surprise of the Central Gas Company, solicitor also to Peto and Betts themselves, exercised such influence over them that they gradually retired from the contract. He (Mr. Dakin) said *gradually*, for objections were made from time to time to the undertaking. First it was said that the company had not got consent to lay their line of pipes through to the City. The directors met that objection by saying, "Do you go on, prepare your deed, and then fall back on the contract." The deed was prepared, but, when it was found that they had no opportunity afforded them in that respect to withdraw, other difficulties were suggested, and at last the company were obliged to detach Peto and Betts from the undertaking. The company then entered into a contract with Mr. Rigby, the large Government contractor, a man quite equal to the performance of any duties he might undertake. That contract was entered upon in the most business-like and straightforward manner. Some difficulty was experienced with regard to the Middlesex and Essex road. The consent of three other boards was necessary to connect the parish of Bow with the city of London. Those consents were obtained, though with some trouble. The parish of Bromley consented with some difficulty. The parish of Whitechapel consented also; the people of Whitechapel-road agreed to it unanimously. The company therefore went to work, not only with the consent of those bodies, but with their most active sympathy and cordial support. It was stated as an objection to the company that it required a dense population to pay the expenses. But it should be recollected that the main and works must be brought to the City; and then the question arose whether it would not be better to pick up as much traffic as possible along the way by transverse pipes. Undoubtedly doing so would be a great advantage. The directors had now contracts from 700 consumers along the line of the Whitechapel-road, which in some respects corresponded to some of the best districts in London. Now with regard to their parliamentary prospects. The select committee to which the bill was referred had been struck; and it was the opinion of all those best competent to form an opinion that a committee more competent could not possibly have been selected. Among those chosen were Mr. Cardwell, once a Minister of the Crown, and the present member for Liverpool, a town where the question of cheap gas was well understood; Mr. Marshall, the member for Leeds; and Mr. Pilkington, the member for Blackburn—all of them resident in places where everything connected with the subject of gas was perfectly well understood. Considering that, of the five gentlemen of which the committee consisted, there were three so well acquainted with the subject, he (Mr. Dakin) thought there was a good guarantee for having the case of the Great Central Gas Company fairly considered. He might mention also that the directors had had an interview with Lord Ashley and the Board of Health, and they had reason to believe from the statements made by Mr. Croll that the result of that interview would have an important effect on the deliberations of the committee. The chairman concluded by passing a high encomium on the directors, and by moving that the general report of the directors, the financial report, and the surveyors and engineers' report be adopted by the meeting, and be entered on the minutes after having been signed by the chairman in testimony of such approval.

Mr. HALL seconded the motion.

Mr. WALTON proposed that the reports should be printed and circulated among the shareholders.

Mr. WIRE thought the printing of the reports should be left to the discretion of the directors, as their publication might afford materials to the opponents of the company for future opposition.

After some desultory conversation it was agreed that the printing of the reports would not be judicious, and the resolution was put from the chair and agreed to unanimously.

On the motion of the Chairman, Mr. John Bradbury, Mr. John Lowe, Mr. John Hunt, and Mr. James Warren were severally proposed to the meeting as directors, and unanimously elected.

Mr. Fellows and Mr. Massey were elected as auditors.

On the motion of Mr. Mawby, seconded by Mr. Bullen, the thanks of the meeting were voted to the chairman and directors.

The CHAIRMAN, having briefly responded, called attention to Mr. Pearson, M.P., who had just entered the room, and intimated that a speech was expected from him.

Mr. PEARSON, in expressing his confidence in the company, referred to the onerous duties he had to perform in the Common Council, in Parliament, and in many other places, and excused himself from not fulfilling his duties to his liking in any one place on account of the difficulty of attending to the duties of all. He was greatly annoyed at the hard sayings that had been uttered against him by some people, although he had not heard or read what those sayings were. He did not wish to have his mind disturbed by reading such rascally attacks upon the company, but he did not know what was in any of those attacks. But, if there was anything in them that required an answer, the writers should have an answer. Nothing would answer the purpose of the writers of those attacks better than to provoke him to a controversy which would distract his thoughts from the business of the company, and affording them an opportunity of casting imputations on him and the respectable body with which he stood connected. Mr. Anderton assured him (Mr. Pearson) that, neither directly nor indirectly, was he concerned in those attacks. He did not write them himself, nor did he know who did. He was a gentleman who sometimes exercised his discretion, and sometimes his indiscretion; but, whatever he did, he did it openly, and in his own name, and he disclaimed the authorship of those pamphlets. He disclaimed anything so base as those publications. Having to attend a committee of the House of Commons, Mr. Pearson hoped the meeting would excuse him for withdrawing so soon.

After a few words from the CHAIRMAN, in reference to the success of the undertaking, the proceedings terminated.

Register of New Patents.

ALFRED VINCENT NEWTON, Chancery-lane, mechanical draughtsman, for "*improvements in the manufacture of pipes or tubes.*" (A communication.) Patent dated October 5, 1849.

This invention embraces, 1, a machine to form the sand-moulds for the exterior peripheries of pipes; 2, a pipe-core moulding machine; and, 3, a mode of forming core spindles.

1. The pipe peripheral moulding-machine consists of two vertical standards, which carry at top a fixed press-beam, to the bottom whereof is attached a pattern for compressing sand into the half flask that is supported beneath it, in a carriage suitably hollowed for that purpose. In the lower portions of the standards there are slots which receive the ends of a moveable press-beam, and serve to retain it in the same vertical right line during its ascent or descent. This rising and falling motion is communicated to the moveable press-beam, by means of two cams placed underneath its ends, which are made to rotate simultaneously by a toothed rack and pinions. The lower part of the flask-carriage is furnished with a toothed rack at each end, gearing into two pinions keyed on the same horizontal rod, having a winch handle whereby rotatory motion is communicated, and the flask-carriage-thereby made to travel to and fro between the two press-beams. The upper part of the flask-carriage has an open hopper extending its whole length, to regulate the quantity of sand admitted to the half flask. At the back of the machine, and extending the whole length of the half flask, is a box, filled with sufficient moulding sand for several flasks, and fitted with a sliding bottom. The top surface of the open hopper above the flask-carriage is in the same horizontal plane as that of the sliding bottom, so that when it is pushed under the box, it shall take the place of the bottom, and allow the sand to fall into the half flask, and rise up to the top of the hopper. The motion of the carriage is reversed and brought over the moveable

press-beam under the pattern fixed to the bottom of the stationary press-beam. The sliding bottom of the sand-box is gradually brought under it as the carriage retrogrades, so as to close it and prevent the escape of sand, by means of a catch fastened to the lower part thereof, which takes into a second catch in the side of the flask-carriage. A rotary motion is imparted to the cams to lift the moveable beam up, and force the sand up, whereby it will be forcibly compressed in the half flask. When this is effected, the moveable beam is lowered, to allow the racks underneath the carriage to take again into the pinions, the flask to be slidden out and removed, its place taken by an empty one, and the same operation repeated. The half moulds are bound together to form the cylinders for casting.

2. The pipe-core moulding-machine consists of a suitable frame-work, braced together by stays, which contains the core-box, divided into four sections by two horizontal planes. The lower section is fixed, and the two side ones are attached to two sliding plates, which are caused to move to and from each other by being connected to two pairs of cranks on a horizontal rod. A partial rotary motion is communicated to this rod by a winch handle according as it is desired that the side sections should recede from or approach each other. The fourth or top section is supported at one side above the other three in the end of a system of jointed levers, or radial arms similar to those used for raising or lowering the hoods of carriages. The *modus operandi* is as follows:—The side sections are slid out, and the space between them and the fixed section partially filled with sand by an arrangement somewhat similar to that employed in the first machine. The core is then laid upon the sand in the fixed section, and a fresh supply of sand above that. The top section is forced down into position, and the side sections brought together so as to forcibly compress the sand around the core.

3. The core spindle is composed of two strips of metal, intersecting each other at right angles, and having a screw cut upon their edges, round which a wire is wound, upon which the sand is compressed.

Claims.—1. The process of forming pipe-moulds by compressing a measured quantity of sand into each section of a flask.

2. The process of forming pipe-cores by compressing a measured quantity of sand between the converging sections of a core-box.

3. Forming wire spindles, by enveloping a suitable metal rod in wire, upon which the sand is to be compressed.

HENRY WATSON, Newcastle-upon-Tyne, brass-founder, for "*improvements in valves and cocks.*" Patent dated October 12, 1849.

The waterway of these improved valves or cocks is opened or closed by moving up or down a conically-shaped block or key, to the inclined surfaces of which are attached, by means of bolts and screws, pieces of leather, gutta percha, or other suitable flexible and elastic material. The desired motion is communicated to the key by a screw-rod, which is turned in one or other direction, according as the waterway is to be closed or opened. When the rubbing surfaces or elastic materials are worn out fresh ones are to be substituted in their stead.

Claim.—Facing the inclined surfaces of the block or key with yielding or flexible materials.

DAVID HULETT, of Holborn, Middlesex, gas engineer, and JOHN BIRCH PADDON, of Lambeth, Surrey, gas engineer, for "*improvements in gas meters and in gas regulators.*" Patent dated October 18, 1850.

Claims.—1. An improvement in the syphon of gas meters, whereby it is limited in its use to the passage of gas exclusively, and all access to it from the outside is excluded.

2. An addition to gas meters of an indicator for exhibiting at all times on the dial-plate the height of the water in the meter, such indicator being actuated by means of a float rising or falling with the water.

3. An improved overflow valve, whereby any abstraction of gas through that valve is rendered impracticable and several modifications thereof as also any other modifications of which the same may be susceptible.

4. An addition to the ordinary syphon of gas meters of a weighted lever-valve, for the prevention of fraud from tilting.

[Should the meter be tilted up ever so little for the fraudulent purpose of displacing part of the water from the drum, and causing, to the extent of such displacement, more gas to pass through the meter than is registered, the weighted lever instantly brings the valve down upon the mouth of the pipe, and stops the flow of the gas.]

5. Certain arrangements for regulating the flow of gas by the application of a column of mercury.

[We shall give a full description of the improvements, 1, 2, 3, and 5, with engravings, in our next.]

Miscellaneous News.

BOARD OF TRADE.—A deputation from some of the metropolitan gas companies, consisting of Mr. Richards (governor of the Imperial Gas Company), Mr. Hawkins (London Gas Company, Vauxhall), Mr. Stewart (British Gas Company), and Mr. Henry (secretary to the Imperial Gas Company), accompanied by Mr. Wilkin, of Piccadilly, solicitor, waited on Mr. Labouchere, the President of the Board of Trade, on the 12th ult.

GAS LIGHTING IN AUSTRALIA.—A company has been formed for lighting Adelaide, the capital of South Australia, with gas. Sydney has been lighted for some years, and has been a profitable speculation, the shareholders having uniformly received a dividend of 10 per cent. on their capital.

THE CHARTERED GAS COMPANY.—The arrangements consequent on the death of Wm. Bateman, Esq., the late governor of this company, have been completed by the election of George Wigg, Esq., to that office; Benjamin Hawes, Esq., becoming deputy governor, and the vacant seat at the board being filled up by F. A. Winsor, Esq., the son of the founder of the company, and the ardent promoter of the introduction of gas lighting.

PUBLIC WORKS GAS COMPANY.—A project under this title has been registered during the past month, its object being the supply of gas to the eastern metropolitan districts at 4s. per 1000 feet. When we state that the only name registered either as projector, promoter, or proprietor is that of a speculating gas-fitter, it will excite no surprise that the parochial authorities of St. Leonard's, Shoreditch, should have rejected its offer to light that parish by a majority of 29 to 2.

FATAL ACCIDENT FROM GAS. — A melancholy accident which occurred at the gas works in Autun is thus related in the local paper:—In the night of the 18th of March, one of the stokers perceived that there was an escape of gas from one of the purifiers. He examined the vessel several times, but was unable to discover the cause of the escape. When it was daylight he inspected all the syphons and the hydraulic stopcocks, and found that the syphons were in proper order, and that no obstruction existed in any of them. The conclusion accordingly was that the obstruction could only be in the horizontal portion of the pipes which convey the gas into the gasometer. The superintendent requested a man to descend into the syphon. He went home to procure a bradawl, with which he descended into the pit, having a rope fastened under his arms. Instead of merely removing the screw, in order to allow the ammoniacal water to flow out, he pierced the upper portion of the syphon, which is made of lead, with his bradawl. The water which was in the syphon, and the gas, made their escape with violence. The unfortunate man had scarcely time to cry for help before he fell down suffocated. The persons who were above, at the mouth of the well, endeavoured to draw him out with the rope, but met with a resistance which they were unable to overcome. It could not be raised by pulling in a vertical direction. The stoker offered himself, and fell back suffocated. Another workman went down, and, in like manner, he too felt his strength desert him, and fell at the foot of the ladder. His lifeless body was not brought up until an hour had elapsed.

Advertisements.

TO Gas Companies, Water Companies, and Others.—TO BE DISPOSED OF, about NINETY 24-Inch MAIN PIPES, at — per ton.

Application for particulars as to price, &c., to be made to the Storekeeper at the Chartered Gas Light and Coke Company's Works, Horseferry-road, Westminster.—February, 1850.

ANDREW McLAREN and CO., Steel-yard Wharf, 87, Upper Thames-street, London, have always in Stock a large Assortment of Cast-iron Socket and Hot-water Pipes, Wrought-iron Tubing with Connections, with a variety of goods adapted for every purpose, all of the best quality, and at the lowest price.—Contracts taken to any extent.

WEST HAM Gas Light and Coke Company.—The Directors of this Company hereby give notice to the Consumers of Gas in the districts of West Ham, Stratford, and Plaistow, that in pursuance of the principle on which they commenced the operations of the company, viz, that of supplying "gas of a pure quality at the lowest price consistent with a fair return for the capital invested," it is their intention to REDUCE THE PRICE OF THEIR GAS TO FIVE SHILLINGS per 1000 cubic feet, such reduction to take place from and after Lady-day last.

By order of the Board,
WILLIAM J. NIXON, Sec.

Board-room, Stratford, April 17, 1850.

RUFFORD'S FIRE-BRICKS, RETORTS, CRUCIBLES, and CLAY. A large stock always on hand, and every description of Fire-proof goods carefully and promptly made to order.

FRANCIS TONGUE RUFFORD
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GUTTA PERCHA TUBING.

GUTTA Percha Tubing, being unaffected by moisture, acids, alkalies, grease, &c., is useful for the conveyance of Water, Oil, Chemicals, Liquid Manure, &c. It is peculiarly valuable for Drain and Soil Pipes. In case of any stoppage, an incision can be made in the tubing with a sharp knife, and readily closed again by means of a warm iron. Its strength is extraordinary; the small half-inch diameter tubing having resisted a pressure of 250lb. on the square inch without bursting.

Gutta Percha is totally impervious to wet, and may be steeped in water or buried in damp or marshy grounds for years. IT IS NOT SO LIABLE TO INCRUSTATION, and, from its peculiar property as a non-conductor, is not affected so soon by the frost of winter as metal piping.

The smaller sizes of the Tubing may be had in lengths of from 100 to 400 feet, and the larger sizes of 50 feet, each.

The extraordinary power possessed by Gutta Percha Tubing as a CONDUCTOR OF SOUND renders it invaluable for conveying messages from one room or building to another.

Every variety of Gutta Percha Articles manufactured at the Company's Works, Wharf-road, City-road, London; and sold by their Wholesale Dealers in town or country.

THE Registered Cylindrical Gas Stove possesses all the advantages which belong to gas stoves in general, with the addition of many peculiar to itself; its great distinguishing merit is the internal arrangement, by which none of the gaseous vapour escapes into the apartment, so that a pure atmosphere is constantly preserved. It will be found of the utmost value in churches, chapels, manufactories, halls, libraries, bedrooms, nurseries, greenhouses, conservatories, &c.—Prices 28s., 35s., 40s., and 45s. each, at DEANE, DRAY, and DEANES, Domestic and Public Gas Fitting Manufactory, No. 3, Arthur-street East, London-bridge.

London: Printed by THOMAS GREAVES BARLOW, of 32, Bucklersbury, parish of St. Stephen, Walbrook (at the office of Palmer and Clayton, 10, Crane-court, Fleet-street); and published by him at 88, Cheapside, in the parish of St. Mary Cole, all in the City of London.—Friday, May 10, 1850.